REMARKS

By this amendment, Claim 31 is cancelled. This amendment is permitted under 37 C.F.R. § 1.113(c) because it only concerns cancellation of a claim and is filed commensurate with a Notice of Appeal.

Applicant respectfully traverses the rejection of Claims 1, 3-7, 20-23 and 28-30 as being obvious over different combinations of prior art. Reconsideration and allowance of the application is respectfully requested.

Claims 1, 3-7, 20-22, 29 and 30 are rejected as being obvious over Egan, III et al. (U.S. Pat. No. 6,112,710) in view of Meneely et al. (U.S. Pat. No. 6,386,160). Claim 1 recites a valve bridge disposed between (i) first and second slave pistons and (ii) two engine valves. The two engine valves are recited to be spaced apart by a first distance, and first and second slave pistons are spaced apart by a second distance, wherein the first distance is different than the second distance. Claims 3-7 20-22 and 28-30 all depend directly, or through intervening claims, on Claim 1, and thus include the same limitations.

The Office acknowledges that Egan fails to disclose a valve bridge disposed between the first and second slave pistons and two engines valves; wherein the first distance (that between the engine valves) is different than the second distance (that between the slave pistons). In view of this difference between Claim 1 and Egan, the assertion that the claimed combination is obvious depends entirely on the assertion that Meneely teaches a valve bridge disposed between first and second slave pistons and two engine valves wherein the distance between the slave pistons is different than the distance between the two engine valves. Specifically, the Office relies upon the teaching of Meneely as illustrated in Figs. 1 and 10 as disclosure of a system in which the space between the first and second slave pistons is different from the space between the two engine valves. This reliance on Meneely is misplaced.

Meneely does not disclose a valve bridge disposed between two slave pistons and two engine valves wherein the slave pistons and the engine valves are separated by different distances. Fig. 1 of Meneely illustrates pistons **96** and **98** which are separated by the same distance as the engine valves **16** and **18**. Figs. 9-16 of Meneely illustrate a different embodiment of the invention in which an actuator piston **226**, which

is not a slave piston, is disposed in a rocker arm in combination with a first member **222**, which is also not a slave piston. There is no master piston used in the Figs. 9-16 embodiment of Meneely, which means that the actuator piston **226** cannot be a "slave" piston. More importantly, however, the first member **222** shown in Figs. 9-16 of Meneely is not a hydraulic piston which acts on the valve bridge at all. The hydraulic passages provided in the first member **222** merely control the application and release of hydraulic fluid to the actuator piston **226**. See column 7, line 31 - column 9, line 45. The first member **222** opens the engine valves as a result of a mechanical force applied from the rocker arm to the upper end of the first member, not as the result of a hydraulic force on the first member.

The differences between the Figs. 9-16 embodiment of Meneely and the claimed invention also make it impossible to conclude that one of ordinary skill in the art would have found it obvious to combine the teachings of this embodiment of Meneely with Egan. Egan uses a master piston to actuate a slave piston. The Figs. 9-16 embodiment of Meneely use a sliding valve spool located in the first member **222** to control the application and release of hydraulic fluid to the actuator piston **226**, however, no master piston is used to drive the actuator piston **226** downward. Instead, the actuator piston **226** is merely extended by the application of low pressure hydraulic fluid, and it is the downward rotation of the rocker arm in which the actuator piston is located which acts on one of the two engine valves.

Still further, even if the Figs. 9-16 embodiment of Meneely did disclose the use of slave pistons, and could be combined with Egan, which it cannot, the embodiment of Meneely relied upon would not work if substituted into Egan. The actuator piston **226** in Meneely does not act on the crosshead **220**, but rather acts on a sliding member **230** which extends through the crosshead. As a result, the actuator piston **226** and the first member **222** are not spaced equidistant from the first and second engine valves. Thus, if both the actuator piston **226** and the first member **222** were provided in a fixed overhead housing and were displaced downward with an equal hydraulic force, the force received by the crosshead **220** would be out of balance and open the engine valves unequally. The engine valve stems would be exposed to a side load and could

easily be damaged or fail. Thus, one of ordinary skill in the art would not have found it desirable to substitute the teaching of Figs. 9-16 of Meneely with that of Egan.

Claims 3-7 20-22 and 28-30 all depend directly, or through intervening claims, on Claim 1. Notwithstanding the limitations added in these dependent claims which further distinguish the claims over the prior art relied upon, each of these claims is patentable in view of the patentability of Claim 1, as explained above. Accordingly, the rejections of Claims 1, 3-7, 20-22 and 28-30 should be withdrawn.

Claim 23 is rejected as being obvious over Egan in view of Cosma et al. (U.S. Pat. No. 5,619,965) and further in view of Vanderpoel (U.S. Pat. No. 6,474,277). Claim 23 recites the step of seating the two or more engine valves by throttling hydraulic fluid flow past a single point located between the two or more slave pistons and the master piston.

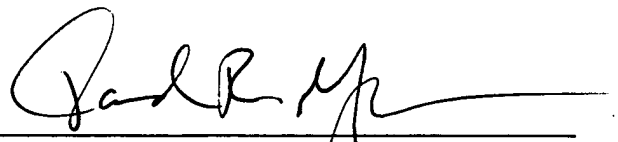
Egan is relied upon to disclose the invention of Claim 23 with the exception of the foregoing seating step. Cosma and Vanderpoel are relied upon as teaching valve seating control generally and throttling of fluid flow to control valve seating, respectively. None of the prior art teaches throttling flow past a single point to seat two or more engine valves which are actuated by two or more slave pistons.

It would not have been obvious to one of ordinary skill in the art to arrive at the invention of Claim 23 by combining the prior art relied upon. The slave piston bores provided in Egan connect to a common hydraulic passage such that there would be no place to provide the throttling device taught by Vanderpoel in a manner that would enable it to throttle the flow of hydraulic fluid from both slave pistons. Because the throttling device taught by Vanderpoel would likely be inoperable in the system taught by Egan, there would have been no motivation for one of ordinary skill in the art to combine the teachings of the two references. Accordingly, reconsideration and withdrawal of the rejection of Claim 23 is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims of the present invention define subject matter patentable over the references cited by the Office and that the application is in condition for allowance. Should the Office believe that anything further is required to place the application in condition for allowance, the Office is invited to contact the undersigned attorney.

No fee is believed to be due for consideration of this amendment and response. In the event a fee is due, the Commissioner is hereby authorized to charge such fee, or credit any overpayment, to deposit account number 03-2469. Moreover, if the deposit account contains insufficient funds, the Commissioner is hereby invited to contact Applicant's undersigned representative to arrange payment.

Respectfully submitted,



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